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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,909	02/08/2005	Christian Ochs	WAS0680PUSA	2665

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BROOKS KUSHMAN P.C.
1000 TOWN CENTER
TWENTY-SECOND FLOOR
SOUTHFIELD, MI 48075

EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/523,909

Applicant(s)

OCHS ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-46 is/are allowed.
- 6) ☒ Claim(s) 16-22 is/are rejected.
- 7) ☒ Claim(s) 23-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/08/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

Claim 20 is objected to because the words "thiocarboxylate" and "thiocarboxamide" are both misspelled in claim 1.

There are several embodiments of R^2 cited in claim 1 for which the close-parenthesis is printed as a subscript. Correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant first describes the linking group R^2 as a, "hydrocarbyl radical that may be interrupted by oxygen, mercapto, amine, carbonyl, carboxyl, sulfoxide, or sulfonyl groups." Later in claim 1, it is contemplated that certain R^2 moieties are excluded when the compound is a silane however many of these groups would not appear to have been embraced by the original description of R^2 anyway. For instance, it is not stated that urethane groups may interrupt the hydrocarbon structure of R^2 in the first twenty lines of claim 1 yet this group is particularly excluded from the accepted embodiments of R^2 as later defined for silane compounds. Indeed, there are numerous organic fragments that are excluded from R^2 by the later provisos that were not contemplated by the earlier description.

Claim Rejections - 35 USC § 102

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Bradshaw et al., U.S. patent # 5,403,898. Bradshaw discloses the preparation of siloxane polymers bearing cyclodextrin sidegroups wherein there are numerous embodiments of the linking group Q that are not expressly excluded by Applicant's provisos.

Claims 16-20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by the article entitled "Cyclodextrin Polymer Encapsulated Particles for Supercritical Fluid Chromatography" authored by Shen et al. and published in J. Microcolumn Separations (196), 8(4), pg 249-257. Polymer B on the second page adheres to the structural position of the claimed polymer and the group linking the cyclodextrin and silicone backbone is not included among the divalent radicals expressly excluded by Applicant's claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article entitled β -Cyclodextrin Chiral Stationary Phases for Liquid Chromatography. Effect of the Spacer Arm on Chiral Recognition" authored by Berthod et al and published in *Talanta* (1993), 40(9), 1367-73. This reference contemplates functionalizing silica with an organofunctional silane of specified structure followed by reaction of the appended functional group with a cyclodextrin. It is appreciated that this method would not produce the claimed product because the pre-treated silica would not adhere to Applicant's limitation that not more than 90% of the units have the sum $a + b + c + d = 0$. On the other hand, an alternative approach wherein the silane and cyclodextrin are reacted first followed by surface modification of the silica with the silane-derivatized cyclodextrin is obvious. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); see also *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.). If the silane-derivatized cyclodextrin is formed first, the resulting organosilicon compound would adhere to those embodiments of Applicant's claimed invention wherein the organosilicon compound was a silane.

Allowable Subject Matter

Claims 23-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 31-46 are allowable.

Cabrera et al., U.S. Patent # 5,104,547 and the article entitled "Molecular Host Siloxane Thin Film for Surface Acoustic Wave Chemical Sensors" authored by Swanson et al. and published in Sensors and Actuators (1997), B45, pg. 79-84 are cited for their disclosure of organosilicon compounds featuring a cyclodextrin framework. They do not, however, represent a foundation for rejection because the residues linking the cyclodextrin and silicon atom are among those expressly excluded by Applicant's claims. DE 199 61 212 is cited by the ISA as being especially germane to claim 1 but the Examiner disagrees inasmuch as only cursory mention of siloxane polymers bearing pendant cyclodextrin rings is made, there being no indication of a preparative approach other than to suggest a nucleophilic displacement and, hence, Applicant's provisos are not necessarily satisfied.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 3, 2006


MARC S. ZIMMER
PRIMARY EXAMINER